

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N545559928

FACILITY: Motus Integrated Technologies - Maplewood Facility		SRN / ID: N5455
LOCATION: 88 EAST 48TH STREET, HOLLAND		DISTRICT: Kalamazoo
CITY: HOLLAND		COUNTY: ALLEGAN
CONTACT: Ben Sprague , Environmental		ACTIVITY DATE: 06/16/2021
STAFF: Cody Yazzie	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Announced Inspection		
RESOLVED COMPLAINTS:		

On June 16, 2021 Air Quality Division (AQD) staff (Cody Yazzie) arrived at 88 East 48th Street, Holland Michigan at 9:00 AM to conduct an announced air quality inspection of Motus Integrated Technologies (hereafter Motus). The inspection was announced due to COVID-19 restrictions/protocols. Staff made initial contact with Ben Sprague, from Motus who is the environmental contact. After a brief introduction Staff was taken to a conference room for further discussions.

This plant makes headliners and other interior parts for automobiles. Each area has a different method of producing the end product, depending on the customer requirements. Generally, the main objective is to mate a semi rigid poly foam board to a fiberglass reinforcing mat (scrim) and a fabric cover. During the process, the board must enter a press to form the board to the desired shape and permanently attach the layers to each other.

Motus was last inspected by the AQD on January 31, 2017 and appeared to be in Compliance at that time with PTI No. 139-04A Staff asked, and Mr. Sprague stated that the facility does have emergency generators.

Mr. Sprague gave staff a tour of the facility. Required personal protective equipment are safety glasses, steel toe boots, and hear protection. Staff observations and review of records provided during and following the inspection are summarized below:

EU-AUTOFORMINGLINE (Polybond2):

The adhesive portion of a 2-part urethane adhesive is applied with rollers onto both surfaces of a sheet of semi-rigid polyurethane foam. The catalyst portion of the 2-part urethane adhesive is sprayed onto the substrate to activate the adhesive. The product is transferred to a lay-up station where fiberglass sheets and scrim are placed on each side of the foam to form a loose composite. This process is repeated with another polyurethane foam sheet. A mold release agent is applied to a heated tool as the foam composite enters the form press which sets the adhesive to the composite. This includes clean-up operations.

This emission unit has two emission limits associated with it. The first is a 18.7 TPY VOC emission limit excluding clean-up operations that is calculated on a 12-month rolling time period. The second is a 0.8 TPY VOC emission limit for only the clean-up operations associated with EU-AUTOFORMINGLINE that is calculated on a 12-month rolling time period. The largest 12-month rolling VOC emissions for EU-AUTOFORMINGLINE excluding clean up emissions was calculated to be 2.7 TPY in May 2021. The largest 12-month rolling VOC emissions for the clean-up operation of

EU-AUTOFORMINGLINE were calculated to be 0.1 TPY in May 2021. Both these appear to meet the limit in the PTI.

The facility is required to capture all waste coatings, adhesives, and clean-up material and store them in closed containers. During the inspection the facility appeared to be complying with both these requirements.

The facility is required to determine the VOC content, water content, and density of any coating or adhesive, as applied and as received, using federal Reference Test Method 24. The facility does have the ability to use manufacturer's formulation data if given prior approval by the AQD District Supervisor. For VOC calculations the facility is using manufacturer's formulation data. The facility doesn't appear to have received a written approval letter to use the Manufacturer's formulation data instead of Method 24 Test. Staff suggests that the facility should submit a request so that a formal determination could be made if the facility could use Manufacturer's formulation data or if Method 24 Testing would be needed for the coatings and/or adhesives used in the emission unit.

The facility has a limit on the VOC density of the materials that are used on EU-AUTOFORMINGLINE2. The facility is restricted to 5.0 lbs/gal minus water as applied. The facility uses three different materials as part of the operation Baynet 401, Swiftbond22014, and Mold Release. The facility has recorded these materials as having very low VOC's. The VOC densities appear to be roughly 0.051, 0.229, and 0.10 lbs/gallon. Based on company information the facility appears to be compliant with the material limit.

EU-MARRIAGELINE2:

EU-MARRIAGELINE-2 is a conveyor that carries formed composites to the spray booth. A pre-mixed 2-part urethane adhesive is sprayed onto the part using robotic applicators. After an inspection step, the coated part is transferred to a curing operation. After the curing operation, the part is transferred to the marriage press where a sheet of material is married to the composite. This emission unit does include clean-up operations.

This emission unit has one emission limit associated with it. EU-MARRIAGELINE2 is limited to 8.6 TPY VOC emissions calculated on a 12-month rolling time period. Since January 2020 the largest 12-month rolling VOC emissions for EU-MARRIAGELINE2 were calculated to be 0.3 TPY, which occurred in May 2021. Motus appears to be well below the permitted VOC limit.

The facility is required to capture all waste coatings, adhesives, and clean-up material and store them in closed containers. In addition, Motus is also required to dispose of spent filters in a manner that minimizes the introduction of air contaminants to the out air. During the inspection the facility appeared to be complying with both these requirements.

This emission has the same language requiring Method 24 testing to determine VOC content, water content, and density as specified in other emission units. The facility does appear to be using Manufacturer's Formulation data without prior approval from the AQD District Supervisor. Staff suggests that the facility should submit a request so that a formal determination could be made if the facility could use Manufacturer's formulation data or if Method 24 Testing would be needed for the coatings and/or adhesives used in the emission unit.

EU-AUTOFORMINGLINE2 (Polybond3):

This emission unit is similar to the EU-AUTOFORMINGLINE with different emission limits. This emission unit also includes clean-up operations and does not separate

This emission unit has one VOC emission limits associated with it. EU-AUTOFORMINGLINE2 is limited to 2.7 TPY VOC emissions calculated on a 12-month rolling time period. Since January 2020 the largest 12-month rolling VOC emissions for EU-AUTOFORMINGLINE2 were calculated to be 1.8 TPY, which occurred in May 2021. Motus appears to be below the permitted VOC limit.

The facility is required to capture all waste coatings, adhesives, and clean-up material and store them in closed containers. During the inspection the facility appeared to be complying with both these requirements.

This emission has the same language requiring Method 24 testing to determine VOC content, water content, and density as specified in other emission units. The facility does appear to be using Manufacturer's Formulation data without prior approval from the AQD District Supervisor. Staff suggests that the facility should submit a request so that a formal determination could be made if the facility could use Manufacturer's formulation data or if Method 24 Testing would be needed for the coatings and/or adhesives used in the emission unit.

The facility has a limit on the VOC density of the materials that are used on EU-AUTOFORMINGLINE2. The facility is restricted to 5.0 lbs/gal minus water as applied. The facility uses three different materials as part of the operation Baynet 401, Swiftbond22014, and Mold Release. The facility has recorded these materials as having very low VOC's. The VOC densities appear to be roughly 0.051, 0.229, and 0.10 lbs/gallon. Based on company information the facility appears to be compliant with the material limit.

FG-EDGEFOLDS:

This flexible group consist of two heated folding presses that presses the edges of headliners from EU-AUTOFORMINGLINE and EUAUTOFORMINGLINE2. PTI No. 139-04D indicates that the headliners are coming from EU-AUTOFORMINGLINE and EU-MARRIAGELINE2. The PTI description indication appears to be incorrect to how the flexible group appears to operate.

This flexible group has one VOC emission limit associated with it. FG-EDGEFOLDS is limited to 1.4 TPY VOC emissions calculated on a 12-month rolling time period. This emission unit has very small emission and is the calculated by adding the VOC emission from the two AUTOFORMINGLINES and applying a 5% emission factor for the headliners that go through FG-EDGEFOLDS. The facility uses a 0.0169 emission factor that incorporates the required 5% emission factor required by PTI No. 139-04D and 0.333 to represent the 1/3 headliners that are processed through the AUTOFORMINGLINES. The 12-month rolling emissions are calculated to be 0.1 from December 2020 to May 2021 due to rounding emissions. If emissions from MARRIAGELINE2 were used the emissions would be lower as EUMARRIAGELINE2 does not produce as much VOCs as EUAUTOFORMINGLINE2.

Staff does recommend that the facility resubmit the PTI application to correct the language in the PTI related to FG-EDGEFOLDS. The emissions calculations and language in the PTI specify that the edge fold emission units are handling material from EUMARRIAGELINE2. This is incorrect based

on the inspection. The edge fold emission units hand material from EU-AUTOFORMINGLINE and EU-AUTOFORMINGLINE2.

FG-FACILITY:

This flexible group requires the facility to track facility wide emission for individual, aggregate HAPs, and Acetaldehyde of all permitted, exempt, and grandfathered emission units. The PTI limits the individual HAP emissions to 9.9 TPY calculated on a 12-month rolling time period. The facility is also limited to 22.5 TPY calculated on a 12-month rolling time period. The limit for Acetaldehyde is 0.90 TPY based on a 12-month rolling time period.

The facility is maintaining the records for individual HAPs emissions. The records show that the facility reports 20 different individual HAP emissions. Based on the records it appears the largest individual HAP emissions are from 4,4-methylenediphenyl. The largest 12-month rolling emissions are reported to be 501.6 lbs per year or 0.25 TPY for a 12-month rolling time period. This is well below the 9.9 TPY limit. The facility is also calculating aggregate HAP emissions. The largest 12 month rolling emission limit was calculated to be 0.7 TPY which occurred for the month of January 2020. This is well below the 22.5 TPY limit. The facility calculates that the 12-month rolling Acetaldehyde emissions have been 0.0 TPY for January 2020 through May 2021. This is well below the permitted limit.

Polybond1:

The facility uses Rule 290 for this emission unit. The emission unit is also referred to as EUMANUALFORMINGLINE. This emission unit accomplishes the same objectives as the AUTOFORMINGLINES except through a different manual spray method.

The facility appears to be allowed the 1,000 lbs emissions non-carcinogenic VOCs. Staff reviewed emission records from January 2020 through May 2021. The facility was below the 1,000 lbs per month for that period. The largest emissions occurred in August 2020 in which the facility calculated 353.64 lbs. The facility has been lowering emissions from this process as it is not used as much anymore.

Miscellaneous Emission Units:

EUAEROSOLCLEAN:

The facility does use hand held aerosol cans and has a puncturing process. These appear to meet the exemption requirements of Rule 285(2)(hh).

Injection Molding:

The facility does have an injection molding machine that only release emissions to the general in plant environment. This emission unit appears to meet the requirements of Rule 286(2)(b).

Two Spray booths:

The facility has utilized Rule 287(2)(c) for the emissions of a LEON Glue booth and a Leon paint booth. Records showed that these booths have not been used in the reviewed time period of

January through May 2021. The facility is aware of the 200 gallon minus water per month limit and does maintain records.

Boiler & Air Make Up units:

The facility does have one boiler and 5 air make up units. It was noted that one of the air make up units have been out of commission for the past 8 years. These emission units appear to meet the requirements of Rule 282(b)(i).

Emergency Generators:

The facility does have both an emergency fire pump engine and emergency generator. The facility operates these units for around 5 minutes per week while they are conducting preventative maintenance. Facility is keeping records of when the engines are being operated and for how long. The facility was also able to provide documentation that showed a full PM service including inspection of hoses, air filters, replacement of filters, and replacement of the engine oil. This PM was last conducted on 6/29/2020 for the Fire pump engine and on 7/1/2020 for the John Deere engine Model 150R0ZJ71.

At the time of the inspection and based on a review of records obtained during or following the inspection, the facility appears to be in compliance with PTI No. 139-04D. Staff stated to Mr. Sprague that a report of the inspection would be sent to the facility for their records. Staff concluded the inspection at 11:45 PM.-CJY

NAME Cody Young

DATE 9/27/21

SUPERVISOR R. 9/27/21